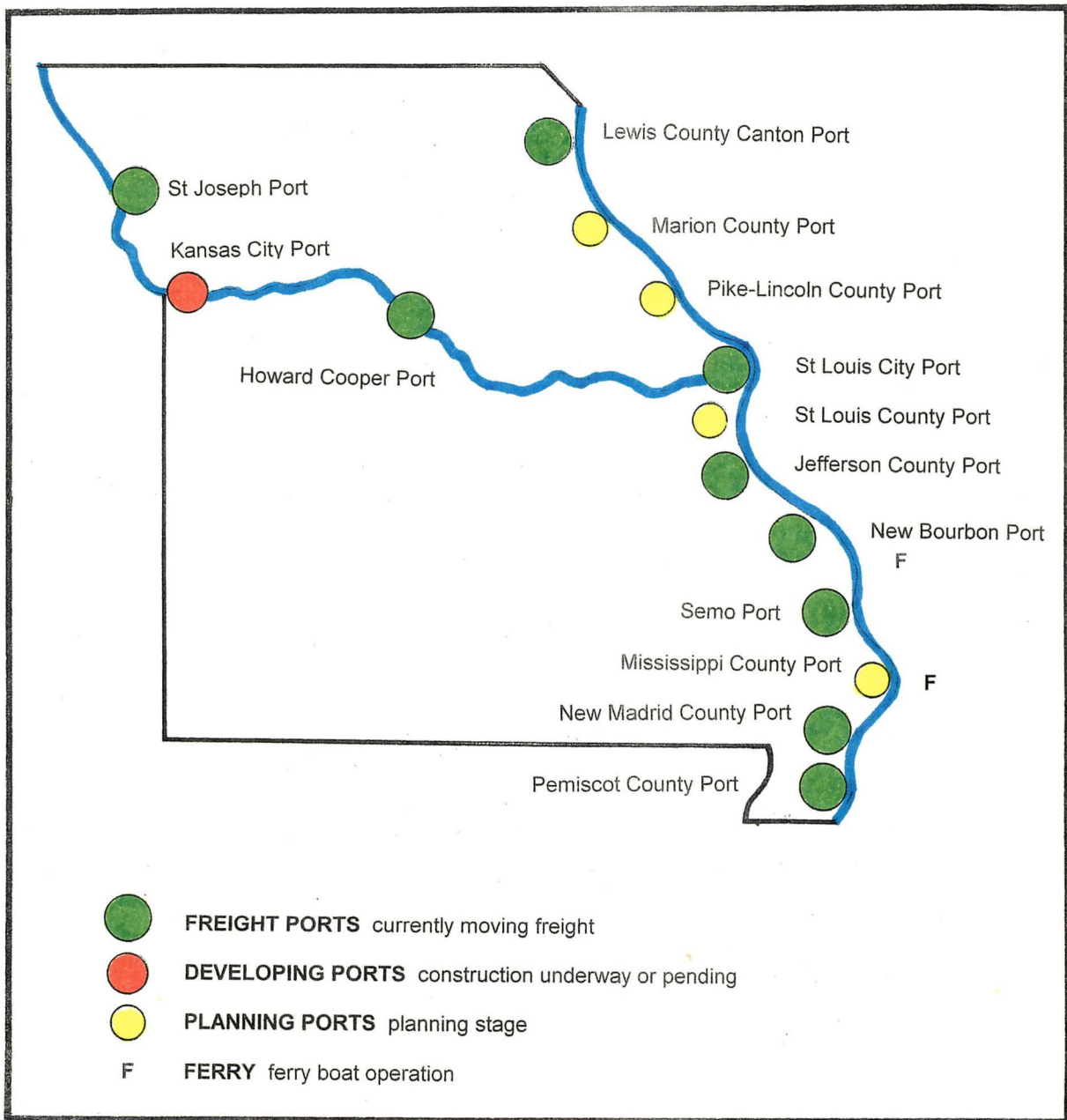


# MISSOURI Ports

## "On Ramps" to the River



Missouri Port Authority Association  
January 2014

## “On Ramps” to RIVER TRANSPORTATION

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**Missouri's Navigable Rivers.** The Mississippi River runs the entire length of the east side of the state. Above St Louis, the Mississippi is controlled by locks and dams which help maintain adequate river depth and provide flood control. The Illinois River, an important link through northern Illinois to Chicago, joins the Mississippi above St. Louis.

The Missouri River runs from the northwest corner of Missouri past St Joseph, Kansas City, and Jefferson City to St Louis. It joins the Mississippi River just north of St Louis.

From St Louis to the Gulf of Mexico -- 1,120 miles -- the Mississippi River has no locks and dams. Without the control of locks and dams, the river level can vary by as much as 50 feet vertically.

At Cairo IL (170 miles south of St Louis), the Ohio River joins the Mississippi. The Upper Mississippi lies north of Cairo, along most of eastern Missouri. The Lower Mississippi lies south of Cairo, along Missouri's Bootheel. Sometimes the stretch between St Louis MO and Cairo IL is called the "Middle Mississippi."

**River Traffic.** Rivers are maintained by the Federal government -- specifically, by the US Army Corps of Engineers. These are expenses which MODOT and the State's budget does not bear. From the State's point of view, the rivers are a "free" mode of transportation, to the extent they can be accessed and used.

The US Army Corps of Engineers maintains the rivers to serve a multitude of purposes. Water supply, habitat, recreation, flood control, and navigation are the primary uses. In terms of navigation for freight hauling, most people do not realize the size of river barges and tows compared to trucks and railcars:

	<u>tons</u>	<u>pounds</u>	
Barge load	1,800	3,600,000	
Railcar load	115	230,000	1 barge = 72 truckloads 1 barge = 16 railcars 1 railcar = 4.6 trucks
Truck load	25	50,000	
	<u>length ft</u>	<u>width ft</u>	<u>height</u>
Barge	195	35	18
Railcar	65	10	17 max 20
Truck trailer	53	8.5	12.5

**River Tonnage.** Because river traffic is quiet, out of the way, often out of sight, the magnitude of traffic handled is not realized by most people. The following table, "River Traffic - 2011," shows Corps statistics for the tons handled that year over each river segment. For comparison, the tons are converted into equivalent barges, railcars, and trucks.

#### RIVER TRAFFIC - 2011

(in tons by river segment)					
	TONS	BARGES	equivalent vehicles		trucks per
tons per vehicle:		1,700	railcars	trucks	hour
			115	25	8,760
<b>Mississippi River:</b>					
Minneapolis to St Louis	61,215,790	36,009	532,311	2,448,632	280
St Louis to Cairo IL (Ohio River)	106,630,156	62,724	927,219	4,265,206	487
Cairo IL (Ohio Riv) to Gulf Coast	183,477,419	107,928	1,595,456	7,339,097	838
<b>Missouri River:</b>					
Kansas City to St Louis	3,704,255	2,179	32,211	148,170	17
all freight excluding sand	230,439	136	2,004	9,218	1

Source:

[http://www.navigationdatacenter.us/wcsc/webpub11/Part2\\_WWYs\\_tonsbycommCY2011.HTM](http://www.navigationdatacenter.us/wcsc/webpub11/Part2_WWYs_tonsbycommCY2011.HTM)

See sheets 75, 78, 79, and 83. Missouri River excludes sand and gravel which is local traffic.

Miss Riv tons 2010.xls

The last column shows how many additional trucks per hour would be moving over Missouri's highways if the barge tonnage were moved by trucks. For example, on the middle Mississippi south of St Louis, the 62,724 barges moved yearly would require 4.2 million truckloads – adding 487 trucks an hour on I-55.

In reality, those trucks would not move, because barge transport is so much cheaper than truck. Most of the freight could not afford to pay truck costs and it would quit moving – putting many companies, farmers, and workers out of business.

Trucks are very economical for products that are time-sensitive. Barges are very slow – but also very cheap – for products that are not time-sensitive.

**River Freight.** By far, most river freight consists of low value products. They need the lowest possible transportation cost, and they can stand the slow transit times of barge travel. Low value products mean low inventory carrying costs, so the extra inventory needed for slow river transport can be economical when it would not be for more valuable products.

From St Louis to the Gulf is a 12-day trip. The return trip is 15 days -- upriver, against the current, holding to clear downbound tows when necessary. In contrast to a 12-day barge trip, a truck can leave St Louis at 5 pm and be sitting in New Orleans first thing the next morning. That part of the US economy served by barge – the backbone of agriculture, mining, and basic industry – requires low cost transportation.

#### **St Louis to New Orleans**

	<u>distance</u>	<u>transit time</u>	<u>speed</u>
truck	677 miles	11 hours	60 mph
river	1033 miles	12 to 15 days	4 mph
river vs truck	356 extra miles 53%	10 to 14 extra days	

#### **Traffic on the middle Mississippi River - 2011**

grains	35%	grains, soybeans, feed
coal	24%	most for electric utilities
raw materials	13%	crushed rock, iron ore, steel scrap
chemicals	11%	about half is fertilizer
oil	10%	crude, gasoline, diesel
manufactured	7%	cement, steel, metals
total	<u>100%</u>	

**Agriculture and River Transport.** The exhibit on the following page, "Agricultural Products – Transportation Units and Dollar Values," shows typical crop production statistics and converts them into truck, rail, and barge transportation numbers. These are for corn and soybeans.

For example, it shows a truck can haul 893 bushels of corn (25 tons) which comes from 6 acres. A barge carries 64,286 bushels produced on 429 acres.

At the bottom, it shows that a large Mississippi River tow of 42 barges carries 2.7 million bushels of corn valued at \$10.8 million dollars (\$4 per bushel corn). This is the production of 18,000 acres – in one tow! For soybeans, the 42-barge tow would be worth \$32.7 million (at \$13 per bushel) and come from 72,000 acres!

Low cost barge transportation is a key factor in helping Missouri's farmers compete in world markets.

## AGRICULTURAL PRODUCTS -- TRANSPORTATION UNITS AND DOLLAR VALUES

CORN					
	lb/bu	lb/ton	\$/bu		
	56	2000	4.00		
	bushels	pounds	tons	value	acres
ACRE =	150	8,400	4.2	\$600	1
TRUCK =	893	50,000	25	\$3,571	6
RAILCAR=	4,107	230,000	115	\$16,429	27
BARGE =	64,286	3,600,000	1,800	\$257,143	429
	bushels	pounds	tons	value	acres
UNIT TRAIN	110 cars per train				
	451,786	25,300,000	12,650	\$1,807,143	3,012
BARGE TOW	24 barges per tow				
This one tow equals 375 railcars or 1,728 trucks.					
	1,542,857	86,400,000	43,200	\$6,171,429	10,286
BARGE TOW LARGE	42 barges per tow				
This one tow equals 657 railcars or 3,024 trucks.					
	2,700,000	151,200,000	75,600	\$10,800,000	18,000
	bushels	pounds	tons	value	acres

SOYBEANS					
	lb/bu	60	lb/ton	2000	\$/bu
					13.00
	bushels	pounds	tons	value	acres
	35	2,100	1.05	\$455	1
	833	50,000	25	\$10,833	24
	3,833	230,000	115	\$49,833	110
	60,000	3,600,000	1,800	\$780,000	1,714
	bushels	pounds	tons	value	acres
	421,667	25,300,000	12,650	\$5,481,667	12,048
	1,440,000	86,400,000	43,200	\$18,720,000	41,143
	2,520,000	151,200,000	75,600	\$32,760,000	72,000
	bushels	pounds	tons	value	acres

## "On Ramps" at MISSOURI'S PORTS

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Just like "on ramps" to the Interstate, port facilities serve as "on ramps" to the river by transferring freight from truck or rail to barge. Docks of different types handle many kinds of freight -- general cargo, dry bulk, liquid bulk, project cargo.

**What Is A Port?** The word "Port" has several different definitions:

**Ocean Port.** Most people think of ocean ports, where ships load and unload. Ocean ships typically have a draft (depth in the water) of 40 feet or more. On the Mississippi River, ships can operate only as far north as Baton Rouge LA. North of that point, the Corps maintains a 12' depth to Cairo IL and a 9' depth above Cairo. The river is often deeper, depending on rains and seasons and the location along the river, but the minimum depth governs river commerce. From St Louis south, river shippers typically load barges to 12' drafts, but realize that several weeks a year they might have to cut back to the 9' minimum barge draft.

**Port Authority.** This is a local government entity. In St Louis, for example, the City of St Louis has a port authority, as do St Louis County and adjacent Jefferson County.

**US Coast Guard "Port."** This is a geographical area on a river, such as the Port of New Orleans or the Port of Pittsburgh. The Port of St Louis, for example, includes the entire area along the river -- both Missouri and Illinois, and parts of several local port authorities on both sides of the river. The Coast Guard's "Port of St Louis" with many public and private firms handles about 25 million tons a year.

**Docks.** The City of St Louis Port Authority, for example, has a public dock which serves a number of customers. It is sometimes referred to as "the port." The City's port authority also owns a number of sites (land parcels) which are leased to a variety of companies, many with their own private docks. In addition to sites owned by a port authority, there are many privately owned industries and terminals with docks along the river.

**Missouri's Port Authorities.** There are 14 port authorities in Missouri, as shown in the map at the front of this report and the list at the back. Each port authority was created by one or more counties under Missouri law (Chapter 68 RSMo). As political subdivisions, port authorities typically have a governing board whose members are appointed by the county or counties which formed them.

Missouri's port authorities focus on handling freight and providing terminal facilities for the truck-rail-barge transfers. Ports lease land to private companies so they can build their own private dock facilities. Some ports, where the market size is sufficient, have public terminals which provide transfer services to many different customers. Typically, the public terminals also provide cargo storage (outdoor and warehouse).

Port authorities help their local economies by providing access to low-cost barge transportation – as “On Ramps” to the river.

**MODOT's Role.** State law (Chapter 68.035) allows the Legislature to provide funds to the port authorities via MODOT. Funds are used for ferry boat subsidies, port authority administration, and improvements.

**Ferry Boat Grants.** The ferry boat subsidy is for the two port authorities which operate ferry boats as part of their local transportation system. It is usually found to be cheaper than the cost of maintaining a river bridge, if one were built.

**Administrative Grants.** These are used by port authorities for administrative and planning functions. They are crucial during the early years of a port's development, when there is little or no revenue coming in from land leases and operations, and counties can provide only limited funds. They help the ports survive and plan for growth, to reach a future point where revenues can provide financial self-sufficiency. The administrative grant total is less than \$500,000 yearly.

**Improvement Grants.** The improvement grants are for public infrastructure capital projects. As a port develops, once its necessary infrastructure in place, then industries and terminals can locate at the port and increase its revenue stream. The need for administrative support diminishes but the need for additional improvements increases.

The improvement grants are of the greatest importance, because without them the ports can never grow and become successful. Missouri needs a consistently funded program for port improvements.

**Improvement Grants – Consistent Funding.** Unfortunately, support at the state level has been erratic and typically non-existent:

**History of Improvement Grants (millions of dollars)**

2004	.	.	\$ 0
2005	.	.	0
2006	.	.	<b>0.5</b>
2007	.	.	<b>1.5</b>
2008	.	.	0
2009	.	.	<b>6.7</b>
2010	.	.	0
2011	.	.	0
2012	.	.	0
2013	.	.	0
2014	.	.	<b>3.0</b>

The ports need the Legislature and MODOT to establish a more consistent level of funding from General Revenue to help the ports grow. Once the needed public infrastructure is in place, a port can attract private industries and terminals, private investment, and jobs. The public infrastructure provides access to low-cost river transportation for the surrounding region.

MODOT's Improvement Grant Request. For FY 2014 the Legislature approved MODOT Waterways' request for \$3 million of improvements. The projects are listed below.

**Port Capital Projects - FY 2014**

		<u>MODOT 80%</u>	<u>Port Match 20%</u>	<u>Total Project</u>
Jefferson County	site improvements	460,000	115,000	575,000
Kansas City	conveyor and utilities	200,000	50,000	250,000
Mississippi County	clearing and paving	48,000	12,000	60,000
New Bourbon	road improvements	500,000	125,000	625,000
New Madrid County	land purchase	672,000	168,000	840,000
Pemiscot County	dredge disposal basin	100,000	25,000	125,000
Semo Port	additional rail tracks	475,000	118,750	593,750
St Joseph	additional rail tracks	<u>545,000</u>	<u>136,250</u>	<u>681,250</u>
Total \$		3,000,000	750,000	3,750,000

MODOT has proposed a multi-year port improvement program of \$6 to \$7 million per year. Often the annual amount is reduced.

With a number of new ports entering the development phase, the \$6 to \$7 million is needed or else the time period for development will take decades. The benefits will be delayed too.

It is common for one highway interchange to cost \$8 million, yet for years and years even half the amount of one interchange could not be found for the statewide port improvement program.

Results From Improvement Grants. MODOT's multi-year port improvement program is based on \$6 to \$7 million a year, but only once (in 2009) was this target achieved. The Legislature provided \$6.7 million of funds for port improvements. MODOT added \$4.5 million more from Federal stimulus funds. The results were rapid and permanent, leading to expansions, new customers, growth, investment, and jobs. The benefits are still coming:

New Bourbon Regional Port Authority completed construction of their harbor. They have signed a terminal (dock operator) and have several prospective tenants.

New Madrid County Port Authority attracted two new industries having 45 jobs and \$70 million of private investment. Later, one of the industries doubled its capacity rather than build a second similar facility in another state.



Pemiscot County Port Authority developed a rail-to-truck transload facility for one tenant and attracted a major new terminal which transfers Bakken crude oil from unit trains to barge. That company has since expanded several times, most recently adding the capability to also handle refined petroleum products.

Semo Port raised a half-mile of its main track and built a second main track to a higher elevation, reducing river flooding closures of its rail line to a major cement plant. The Port developed a rail-to-truck transload facility to support an industry 40 miles away.

St. Joseph Regional Port Authority improved truck safety by building a truck staging area for trucks waiting to enter the port.

City of St. Louis Port used the funds to stabilize their existing dock in preparation for a later major dock improvement and expansion funded by the US Department of Commerce's Economic Development Administration (EDA).

The infrastructure improvements made at the ports last for decades and continue to provide economic benefits. As noted previously, MODOT's long-range plan includes \$6 to \$7 million a year compared to the current \$3 million. The larger amount is needed for the number of new ports entering the development phase as well as continued growth at existing ports.

Each year, Missouri's dozen-plus ports can grow and improve for less than the cost of one highway interchange.

### ***Recap:***

**Need consistent funding for MODOT Waterways Capital Improvements.**

**Take advantage of barge transportation's economics**

**Take advantage of "free" river maintenance (Federal, not MODOT \$)**

**Need port facilities to access barge service**

**Missouri's ON RAMPS to the river !**

## MISSOURI Port Authorities

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*in alphabetical order*

### **Howard / Cooper County Regional Port Authority**

609 Main St, Boonville MO 65233  
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e-mail [kennethfarris@classicnet.net](mailto:kennethfarris@classicnet.net)

### **Jefferson County Port Authority**

P O Box 603, Hillsboro MO 63050  
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### **Kansas City Port Authority**

300 Wyandotte #100, Kansas City MO 64105  
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### **Lewis County – Canton Port Authority**

P O Box 85, Monticello MO 63401  
phone 573-767-5393  
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### **Marion County Port Authority**

201 North Third #220, Hannibal MO 63401  
phone 573-221-1033  
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### **Mississippi County Port Authority**

204 South 411<sup>th</sup> Rd, East Prairie MO 63845  
phone 573-683-0290  
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### **New Bourbon Regional Port Authority**

P O Box 366, Perryville MO 63775  
phone 573-547-8357  
e-mail [semorpc@semorpc.org](mailto:semorpc@semorpc.org)

## MISSOURI Port Authorities, continued

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**New Madrid County Port Authority**

435 Main Street, New Madrid MO 63869

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e-mail [nmcopa@sheltonbbs.com](mailto:nmcopa@sheltonbbs.com)

**Pemiscot County Port Authority**

111 East Third Ave, Caruthersville MO 63830

phone 573-333-4125

e-mail [pemiscotport@yahoo.com](mailto:pemiscotport@yahoo.com)

**Pike / Lincoln County Port Authority**

210 West Main St, Bowling Green MO 63334

phone 573-324-4297

e-mail [pikelincolncountyport@yahoo.com](mailto:pikelincolncountyport@yahoo.com)

**St Joseph Regional Port Authority**

3003 Frederick Avenue, St Joseph MO 64506

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**City of St Louis Port Authority**

1520 Market St, St Louis MO 63101

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**St Louis County Port Authority**

7783 Forsyth #2300, St Louis MO 63105

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**Semo Port (Southeast Missouri Regional Port Authority)**

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**Mid-America Port Commission**

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*Mid-America is not a Missouri Chapter 68 port authority but is a multi-state consortium project.*

## MISSOURI Port Authorities – Additional Contacts

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*for additional information:*

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